

Remarks

Objection to Drawings

The drawings are objected to because the first part-holding fixture as recited in claim 15 is not shown. The first part-holding fixture is identical to the second part-holding fixture shown in FIGS. 2 and 3, but mounts the optical flat with its planar surface aligned normal (rather than inclined) to the rotational axis of the first part-holding fixture.

A new drawing sheet containing FIG. 2A is attached for illustrating the first part-holding fixture. Similar reference numerals designate parts in common with the second part-holding fixture. The letter "a" has been appended to reference numerals of the modified parts, which serve to align the surface normal of the optical flat with the rotational axis of the first part-holding fixture. The specification has also been amended in two places to provide appropriate reference to the new drawing figure. Page 6 has been amended to add the new FIG. 2A to the listing of figures under the Drawings section of the specification. Page 9 of the specification has also been amended to accommodate the new drawing figure and to provide appropriate antecedence for the reference numerals of the new figure.

No new matter is added by the new drawing or the modifications to the specification. The first part-holding fixture is a simplified version of the second part-holding fixture depicted in FIGS. 2 and 3. Both fixtures have the same parts, distinguished only by the fact the optical flat mounting surface being

inclined in one and not in the other. This difference is clearly set forth in the specification.

Claim Objections

An objection was raised to claim 20 because the recitation “applying a vacuum pressure reduction” appears contradictory and would be better expressed as either “applying a pressure reduction” or “applying a vacuum”. The former suggestion was adopted in rewritten claim 20. The Examiner’s careful reading of the claim and helpful suggestions are appreciated.

Obviousness Rejection

Claims 15–19, and 21 stand rejected as being obvious over US Patent 6,634,933 to Koshi et al. and US Patent 5,119595 to Ushiyama et al. Koshi et al. is credited with disclosing the invention as set forth in the amended claims except for the steps involving polishing rather than grinding. Ushiyama et al. is said to evidence grinding and polishing as equivalents.

Independent claim 15 has been amended to clarify an important difference between the claimed invention and the Koshi et al. disclosure. Claim 15 now requires that the optical flat be mounted such that the top surface is in contact with a mounting land of the first part-holding fixture for subsequently grinding the bottom surface of the optical flat into a planar form and the bottom planar surface of the optical flat is mounted in contact with a mounting land of the second part-holding fixture for subsequently grinding the top surface of the optical flat into a planar form.

Koshi et al. disclose a rod lens mounting system in which neither the top nor bottom surfaces of their rod lenses contact a holding surface. For example, in column 4, lines 10–13, Koshi et al. state that “the lens assembly sheet 18 is fixed to the support 23 without the end surfaces (polished surfaces) 63 (FIG. 3) of the rod lenses 11 contacting the holding surface 24a.” In column 5, lines 56–58, Koshi et al. explain further as follows:

“Due to the pit 24b, the polished end surface 63 of each rod lens 11 does not contact the support 23. This prevents the polished end surface 63 from being damaged.”

Thus, Koshi et al. teach away from the claimed invention, which provides a new method of machining optical flats with wedged planar surfaces in which one surface is used to locate the other. Ushiyama et al. is directed to grinding lenses and is relied on only for equating polishing and grinding. The lens mounts of Ushiyama et al. are not relevant to Koshi et al.’s purposes for machining rod lenses with relatively inclined ends.

Claims 15 –19 are believed patentable on this basis. Claim 21 depends from rewritten independent claim 20 as explained immediately below.

Allowable Subject Matter

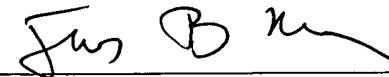
Claims 1–14 stand allowed. Claim 20 is deemed allowable except for matters of form. Claim 20 has been rewritten as suggested in independent form to incorporate all of the subject matter of its base claim 15. There are no intervening claims. Claim 21 properly depends from rewritten independent

claim 20. The Examiner is thanked for the careful consideration given to these claims.

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In view of the above amendments to the specification, claims, and drawings, claims 15-21 are now believed in condition to join claims 1-14 for allowance. Reconsideration of these claims and allowance of all pending claims 1-21 are respectfully requested. For any questions on this response or the application, the Examiner is invited to contact applicants' representative at the telephone number given below.

Respectfully submitted,



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Amendments to the Drawings

The attached new sheet of drawings includes a new FIG. 2A. This sheet is an addition to the drawings sheets.

Attachment: New sheet of drawings